



## **INDIANA DEPARTMENT OF TRANSPORTATION OFFICE OF MATERIALS MANAGEMENT**

### **Directive 203**

### **Dolomite Aggregates**

Dolomite aggregates are defined as carbonate rock containing at least 10.3% elemental magnesium when tested in accordance with ITM 205. The sampling, sample submittal, and acceptance procedures for dolomite aggregates used during production of HMA on Department contracts will be as follows:

#### **SAMPLING**

All dolomite aggregates used on Department contracts will be sampled for acceptance at the HMA plant in accordance with ITM 207, during mix production. The size of sample will be 10 to 15 lb.

#### **SAMPLE FREQUENCY**

Coarse Aggregate -- The frequency of sampling will be one sample per year per plant of dolomite coarse aggregate used.

Fine Aggregate -- The frequency of sampling will be one sample per year per plant of dolomite stone sand used.

If the minimum number of samples is not obtained, cores may be obtained by the Department.

#### **SAMPLE SUBMITTAL**

Samples submitted to the Division of Materials and Tests will have the information from the SM 530 input by the District into SiteManager prior to submittal. The ledges or area represented by the dolomite will be indicated in the appropriate section of the SM 530. Dolomite aggregate material codes for both the fine and coarse aggregates are available. The designated code for the size of aggregate will also be required for the coarse aggregate.

#### **TESTING**

Samples will be tested for elemental magnesium content in accordance with ITM 205 by the Division of Materials and Tests.

**ACCEPTANCE CRITERIA**

The elemental magnesium content of an acceptance sample will be 10.3 percent or greater for 100 percent payment. When the elemental magnesium content is less than 10.3 percent, the sample will represent one week of HMA production for any DMF using the dolomite stockpile in question. An adjustment quantity will be calculated using the following equation:

$$Q = 0.3 \times A \times U \times D \times (10.3 - M)$$

where:

Q = adjustment quantity, \$

A = contract amount of HMA, t

U = unit bid price for material, \$/TON

D = dolomite, percent by weight of total mixture from DMF

M = magnesium content of acceptance, %

**Example**

DMF:           25 % No. 11 Blast Furnace Slag  
                   25 % No. 11 Dolomite  
                   30 % Dolomite Stone Sand  
                   20 % Natural Sand  
                   5.5 % Binder

Unit Price of HMA:   \$75.00/t

Contract Amount:   7050 t

Coarse Aggregate Elemental Magnesium Test Results (%): **10.0**

1.     % CA Dolomite in HMA =  $(1 - .055) \times .25 = .2363$
2.     % Elemental Magnesium = 10.0 %
3.      $Q = 0.3 \times 7050 \times 75 \times .2363 \times (10.3 - 10.0) = \$ 11,244.93$

Fine Aggregate Test Results (%): **10.2**

1.     % FA Dolomite in HMA =  $(1 - .055) \times .30 = .2835$
2.     % Elemental Magnesium = 10.2
3.      $Q = 0.3 \times 7050 \times 75 \times .2835 \times (10.3 - 10.2) = \$ 4,497.02$

The following additional restrictions will also apply:

1. When the elemental magnesium content for a **sample** is less than 8.3% disposition of these materials will be as directed by the Failed Materials Committee.
2. When the elemental magnesium content for a contract is less than 10.3 %, an immediate investigation will be conducted at the aggregate source to determine the capability of the source to produce dolomite aggregates. If the source cannot produce materials meeting the 10.3 % elemental magnesium requirement, the source will be removed from the **QPL of dolomite aggregates**. A source will not be reinstated **on the QPL of dolomite aggregates** until the capability to consistently produce dolomite with 10.3 % or more elemental magnesium is clearly demonstrated.